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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,007	10/05/2000	Phillip M. Braun	00216/447001	8518

26161 7590 03/04/2003

FISH & RICHARDSON PC
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EXAMINER

BALSIS, SHAY L

ART UNIT

PAPER NUMBER

1744

DATE MAILED: 03/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/680,007

Applicant(s)

BRAUN ET AL.

Examiner

Shay L Balsis

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 & 6. 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 2/5/01 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-48 and 50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the user's interproximal regions" in lines 7 and 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the user's teeth" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the same surface" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the opposite end" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 1744

Claim 16 recites the limitation "the front and back teeth" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 18 recites the limitation "the thumb" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 27 recites the limitation "the user's teeth" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 28 recites the limitation "the length" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 35 recites the limitation "the teeth" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 35 recites the limitation "the teeth" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 35 states the limitation that the cleaning elements are positioned at an angle of greater than 15 degrees. However, it is unclear as to what that angle is with respect to?

Claim 43 recites the limitation "the front and back teeth" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 45 recites the limitation "the thumb" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 50 recites the limitation "the user's interproximal teeth" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-7, 11-13, 16, 18, 20-24, 26, 29, 33-34, 45 and 49-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Northemann et al. (USPN 4449266).

Northemann et al. discloses an oral device comprising an elongate handle (1), a head (2), extending from the handle, having a pair of elongate arms (8, 9) that include opposed surfaces (10) with a predetermined depth. Plurality of pairs of opposed brush head cleaning elements (11) are located on the opposed surfaces at predetermined intervals, and are positioned to clean interproximal surfaces of a user's teeth. Each cleaning element is positioned at an acute angle with respect to an interproximal line (see figure 1). The cleaning elements all extend at substantially the same angle as the other cleaning elements on the same opposed surface (see figure 2). The cleaning elements are positioned so that they flex towards the opposed arms during movement out of the users mouth and they are substantially perpendicular to the opposed surfaces when the oral device is moved into the mouth (see figure 23). The opposed cleaning elements of each pair of cleaning elements define a v-shape (col 3, lines 50-60). The bristle cleaning elements also act as centering elements that help to guide the oral device. The handle includes a gripping portion (5) that is to be grasped by the users thumb and fingers. The head of the oral device further comprises a web (65) that extends from the handle and the opposed arm extend outwardly from opposite sides of the web. The web defines a u-shaped opening that

Art Unit: 1744

opens away from the handle and the cleaning elements are positioned at an angle of less than 15 degrees with respect to the web (see figure 2). In use, the user holds the handle in their hand and inserting the head portion into their mouth. The head portion comprises the elongate arms and cleaning elements. The cleaning elements are positioned so that they straddle a row of teeth. The user then moves the head of the oral device towards the back of the mouth and then pulls the device to the front of the mouth, repetitively.

6. Claims 1-7, 11-13, 16, 18, 29, 45 and 49-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Barman (USPN 4876157).

Barman discloses an oral device comprising an elongate handle (33), a head (32), extending from the handle, having a pair of elongate arms (20, 21) that include opposed surfaces with a predetermined depth. Plurality of pairs of opposed brush head cleaning elements (24) are located on the opposed surfaces at predetermined intervals, and are positioned to clean interproximal surfaces of a user's teeth. Each cleaning element is positioned at an acute angle with respect to an interproximal line (see figure 8). The cleaning elements all extend at substantially the same angle as the other cleaning elements on the same opposed surface (see figure 8). The cleaning elements are positioned so that they flex towards the opposed arms during movement out of the users mouth and they are substantially perpendicular to the opposed surfaces when the oral device is moved into the mouth. The opposed cleaning elements of each pair of cleaning elements define a v-shape (col 2, lines 50-60). The handle includes a gripping portion that is to be grasped by the users thumb and fingers. In use, the user holds the handle in their hand and inserting the head portion into their mouth. The head portion comprises the elongate arms and cleaning elements. The cleaning elements are positioned so that they straddle

Art Unit: 1744

a row of teeth. The user then moves the head of the oral device towards the back of the mouth and then pulls the device to the front of the mouth, repetitively.

7. Claims 1-13, 16, 18, 29, 35-43, 45 and 49-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Hegemann (USPN 5305491).

Hegemann discloses an oral device comprising an elongate handle (10), a head, extending from the handle, having a pair of elongate arms (14, 16) that include opposed surfaces with a predetermined depth. Plurality of pairs of opposed brush head cleaning elements (17, 18) are located on the opposed surfaces at predetermined intervals, and are positioned to clean interproximal surfaces of a user's teeth. Each cleaning element is positioned at an acute angle with respect to an interproximal line (see figure 3c). The angle, known as the "angle of attack" or beta, is optimally 45 degrees when alpha is 27 degrees (col 5, lines 43-69, col 5, lines 1-2). However, alpha could be between 15 and 40 degrees so as alpha gets closer to 15, then beta is smaller too. The cleaning elements all extend at substantially the same angle as the other cleaning elements on the same opposed surface (see figure 3a-d). The cleaning elements are positioned so that they flex towards the opposed arms during movement out of the users mouth and they are substantially perpendicular to the opposed surfaces when the oral device is moved into the mouth. The opposed cleaning elements of each pair of cleaning elements define a v-shape (see figure 3a-d). The handle includes a gripping portion that is to be grasped by the users thumb and fingers. In use, the user holds the handle in their hand and inserting the head portion into their mouth. The head portion comprises the elongate arms and cleaning elements. The cleaning elements are positioned so that they straddle a row of teeth. The user then moves the

Art Unit: 1744

head of the oral device towards the back of the mouth and then pulls the device to the front of the mouth, repetitively.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 19, 20 and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barman (USPN 4876157) in view of O'Halloran (USPN 4454623), Hegemann (USPN 5305491) in view of O'Halloran (USPN 4454623) and Northemann et al. (USPN 4449266) in view of O'Halloran (USPN 4454623).

Barman, Hegemann and Northemann et al. all teach the essential elements of the claimed invention however, they all fail teach a handle with a disc-shaped gripping portion. O'Halloran teaches a toothbrush with a handle comprising an elongated shaft (24) and a disc-shaped gripping portion (12, 14). The head of the toothbrush is attached to one end of the shaft and the gripping

Art Unit: 1744

portion is attached at the other end of the shaft. The references are all analogous art because they are from the same field of endeavor of toothbrushes. At the time of the invention, it would have been obvious to one skilled in the art to replace the handle portion of Barman, Hegemann, and Northemann's invention with O'Halloran handle portion. The motivation for doing so would have been to create an inherently stable brush that would enable the user to resist unwanted rotation and to delicately control the brush while gripping it only lightly. The delicate light touch with which the brush can be effectively manipulated and the large palm, finger and thumb rest surfaces contribute to the pleasure and comfort of the user and tend to promote a more positive attitude toward brushing (col 4, lines 42-52). Therefore it would have been obvious to combine Barman, Hegemann, and Northemann with O'Halloran to obtain the invention as specified in claims 19, 20 and 45-46.

10. Claims 19, 20 and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barman (USPN 4876157) in view of O'Halloran (USPN 5765254), Hegemann (USPN 5305491) in view of O'Halloran (USPN 5764254) and Northemann et al. (USPN 4449266) in view of O'Halloran (USPN 5765254).

Barman, Hegemann and Northemann et al. all teach the essential elements of the claimed invention however, they all fail teach a handle with a disc-shaped gripping portion. O'Halloran teaches a toothbrush with a handle comprising an elongated shaft (16) and a disc-shaped gripping portion (12, 18). The head of the toothbrush is attached to one end of the shaft and the gripping portion is attached at the other end of the shaft. The references are all analogous art because they are from the same field of endeavor of toothbrushes. At the time of the invention, it would have been obvious to one skilled in the art to replace the handle portion of Barman, Hegemann, and

Art Unit: 1744

Northemann's invention with O'Halloran handle portion. The motivation for doing so would have been to add more user control (col 2, lines 61-62). Therefore it would have been obvious to combine Barman, Hegemann, and Northemann with O'Halloran to obtain the invention as specified in claims 19, 20 and 45-46.

11. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barman (USPN 4876157) in view of Okin (USPN 4679273), Hegemann (USPN 5305491) in view of Okin (USPN 4679273) and Northemann et al. (USPN 4449266) in view of Okin (USPN 4679273).

Barman, Hegemann and Northemann et al. all teach the essential elements of the claimed invention however, they all fail teach a brush head wherein the cleaning elements are 2-20% shorter than the cleaning elements of an adjacent pair as the pairs are spaced further from the handle. Okin teaches a toothbrush with a handle comprising a handle and a brush head. The brush head comprising bristles angled away from the handle portion. Okin also teaches that the bristles closest to the handle have a maximum height of 12 mm while the bristles farthest from the handle have a maximum height of 9 mm (col 6, lines 44-47). Overall that is about a 20% decrease in height, which means that the adjacent pairs would most definitely fall within the range of 2-20% difference. The references are all analogous art because they are from the same field of endeavor of toothbrushes. At the time of the invention, it would have been obvious to one skilled in the art to modify the cleaning elements of Barman, Hegemann, and Northemann's invention with Okin's tapering cleaning elements. The motivation for doing so would have been to further aid in reaching into the vestibular regions toward the back of the oral cavity with the attendant space limitations (col 6, lines 36-44). Therefore it would have been obvious to

Art Unit: 1744

combine Barman, Hegemann and Northemann et al. with Okin to obtain the invention as specified in claims 14 and 15.

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barman (USPN 4876157) in view of Cavazza (USPN 4519111), Hegemann (USPN 5305491) in view of Cavazza (USPN 4519111) and Northemann et al. (USPN 4449266) in view of Cavazza (USPN 4519111).

Barman, Hegemann and Northemann et al. all teach the essential elements of the claimed invention however, they all fail teach a brush head wherein the cleaning element are shorter as the pairs are spaced further from the handle. Cavazza teaches a toothbrush with a handle comprising a handle and a brush head. The brush head comprising bristles angled away from the handle portion. The references are all analogous art because they are from the same field of endeavor of toothbrushes. At the time of the invention, it would have been obvious to one skilled in the art to modify the cleaning elements of Barman, Hegemann, and Northemann's invention with Cavazza's tapering cleaning elements. The motivation for doing so would have been to easily reach the farthest back molars to remove food deposits from the crevices in the teeth (col 1, lines 16-24). Therefore it would have been obvious to combine Barman, Hegemann and Northemann et al. with Cavazza to obtain the invention as specified in claim 14.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barman (USPN 4876157) in view of Watanabe et al. (USPN 6065176), Hegemann (USPN 5305491) in view of Watanabe et al. (USPN 6065176) and Northemann et al. (USPN 4449266) in view of Watanabe et al. (USPN 6065176).

Barman, Hegemann and Northemann et al. all teach the essential elements of the claimed invention however they are silent about the depth (width) of the elongate arms. Watanabe et al.

Art Unit: 1744

discloses a toothbrush with a head having width of 11.3 mm (col 5, line 21, figure 6b). The references are all analogous art because they are from the same field of endeavor of toothbrushes. Though it is not stated in Barman, Hegemann and Northemann what the depth (width) is of the elongate arms, it is obvious that it needs to be within the range of 5-15 mm. If it is smaller than 5 mm it will not provide sufficient cleaning in an adult mouth. If it is larger than 15 mm it would be difficult clean all the back teeth since it is such a small cavity. At the time of the invention, it would have been obvious to one skilled in the art to modify the depth of the elongate arms on Barman, Hegemann, and Northemann's invention with Watanabe's depth since his depth falls within the 5-15 mm range, which is an appropriate size for an adult mouth. Therefore it would have been obvious to combine Watanabe with Barman, Hegemann and Northemann et al. to obtain the invention as specified in claim 17.

14. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable Hegemann (USPN 5305491) in view of Watanabe et al. (USPN 6065176)

Hegemann teaches all the essential elements of the claimed invention however they are silent about the depth (width) of the elongate arms. Watanabe et al. discloses a toothbrush with a head having width of 11.3 mm (col 5, line 21, figure 6b). Hegemann and Watanabe are all analogous art because they are from the same field of endeavor of toothbrushes. Though it is not stated in Hegemann what the depth (width) is of the elongate arms, it is obvious that it needs to be within the range of 5-15 mm. If it is smaller than 5 mm it will not provide sufficient cleaning in an adult mouth. If it is larger than 15 mm it would be difficult clean all the back teeth since it is such a small cavity. At the time of the invention, it would have been obvious to one skilled in the art to modify the depth of the elongate arms on Hegemann's invention with Watanabe's

Art Unit: 1744

depth since his depth falls within the 5-15 mm range, which is an appropriate size for an adult mouth. Therefore it would have been obvious to combine Watanabe with Hegemann to obtain the invention as specified in claim 44.

15. Claims 23-25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Northemann et al. (USPN 4449266) in view of Shipp (USPN 5390860).

Northemann et al. teaches all the essential elements of the claimed invention however, the reference fails to teach elastomeric centering elements that are perpendicular to the front and back of the user's teeth. Shipp teaches using a plurality of elastomeric bristles located in between a plurality of bristle tufts, positioned so that they are perpendicular to the surfaces of the user's teeth. Northemann et al. and Shipp are analogous art because they are from the same field of endeavor of toothbrushes. At the time of the invention, it would have been obvious to one of ordinary skill in the art to add Shipp's elastomeric bristles to Northemann's brush head. The motivation for doing so would have been to allow for proper placement of the brush on the teeth and to polish the teeth while the teeth are being cleaned (col 4, lines 58-67 and col 5, lines 1-4). Therefore it would have been obvious to one of ordinary skill in the art to combine Northemann and Shipp to obtain the invention as specified in claims 23-25 and 27.

16. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barman (USPN 4876157) in view of Kramer (USPN 6185779), Hegemann (USPN 5305491) in view of Kramer (USPN 6185779) and Northemann et al. (USPN 4449266) in view of Kramer (USPN 6185779).

Barman, Hegemann and Northemann et al. all teach the essential elements of the claimed invention however they are silent about the distance between adjacent pairs of cleaning elements. Kramer discloses a toothbrush with a head comprising bristles spaced more than .55 mm apart

Art Unit: 1744

(col 7, lines 49-51). The references are all analogous art because they are from the same field of endeavor of toothbrushes. At the time of the invention, it would have been obvious to one skilled in the art to space the bristles 0.5-6.0 mm apart because Applicant has not disclosed that spacing the bristles 0.5-6.0 mm apart provides an advantage, is used for a particular purpose, or solves a stated problem. Therefore, it would have been obvious to one of ordinary skill in the art to combine Barman, Hegemann, and Northemann's invention with Kramer's spacing to obtain the invention as specified in claim 28.

17. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barman (USPN 4876157) in view of Kweon (USPN 6067684), Hegemann (USPN 5305491) in view of Kweon (USPN 6067684) and Northemann et al. (USPN 4449266) in view of Kweon (USPN 6067684).

Barman, Hegemann and Northemann et al. all teach the essential elements of the claimed invention however they are silent about using elastomeric fins as cleaning elements. Kweon discloses a toothbrush with a head comprising silicon rubber bristles (abstract). The references are all analogous art because they are from the same field of endeavor of toothbrushes. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use Kweon's rubber bristles in place of Barman, Hegemann and Northemann's bristles. The motivation for doing so would have been that the rubber bristles are soft and have both a high polishing power and a high water repellency, thus effectively cleaning teeth without injuring one's teeth or gums (abstract). Therefore, it would have been obvious to one of ordinary skill in the art to combine Barman, Hegemann, and Northemann's invention with Kweon's bristles to obtain the invention as specified in claim 30.

Art Unit: 1744

18. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barman (USPN 4876157) in view of Volpenhein (USPN 6178583), Hegemann (USPN 5305491) in view of Volpenhein (USPN 6178583) and Northemann et al. (USPN 4449266) in view of Volpenhein (USPN 6178583).

Barman, Hegemann and Northemann et al. all teach the essential elements of the claimed invention however they all fail to teach longer thinner bristles on the inside of the cleaning elements and shorter thicker bristles on the outside. Volpenhein discloses a toothbrush with bristles for interproximal cleaning. There are a few longer bristles for interproximal cleaning (132) surrounded by many shorter bristles (120) for surface cleaning. The references are all analogous art because they are from the same field of endeavor of toothbrushes. At the time of the invention, it would have been obvious to one skilled in the art to modify the cleaning elements of Barman, Hegemann, and Northemann's invention with Volpenhein's interproximal cleaning bristles. The motivation for doing so would have been to provide superior cleaning as well as gum and inter dental stimulation (abstract). Therefore it would have been obvious to combine Barman, Hegemann and Northemann et al. with Volpenhein to obtain the invention as specified in claim 31.

19. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barman (USPN 4876157) in view of Shipp (USPN 5930860), Hegemann (USPN 5305491) in view of Shipp (USPN 5930860) and Northemann et al. (USPN 4449266) in view of Shipp (USPN 5930860).

Barman, Hegemann and Northemann et al. all teach the essential elements of the claimed invention however they are silent about the bristle diameter. Shipp discloses a toothbrush with a head comprising bristles with a diameter of 0.005-0.006 inches (col 4, lines 4-9) that taper 5-8

Art Unit: 1744

degrees when moving away from the handle. The references are all analogous art because they are from the same field of endeavor of toothbrushes. At the time of the invention, it would have been obvious to use Shipp's bristles in place of Barman's, Hegemann's and Northemann's bristles. The motivation for doing so would have been to allow the bristle the bend easily and cause the bristles to be gentle on the gums (col 4, lines 4-9). Therefore, it would have been obvious to one of ordinary skill in the art to combine Barman, Hegemann, and Northemann's invention with Shipp's bristle diameter to obtain the invention as specified in claim 32.

20. Claims 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barman (USPN 4876157) in view of O'Halloran (USPN 5765254), Hegemann (USPN 5305491) in view of O'Halloran (USPN 5764254) and Northemann et al. (USPN 4449266) in view of O'Halloran (USPN 5765254).

Barman, Hegemann and Northemann et al. all in view of O'Halloran teach the essential elements of the claimed invention however they do not disclose expressly that the gripping portion has a thickness of from 0.5 to 20 mm or a diameter of 2 to 7 mm. At the time of the invention, it would have been obvious to one skilled in the art to have a thickness of from 0.5 to 20 mm and a diameter of 2 to 7 mm because Applicant has not disclosed that thickness and diameter provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore would have expected Applicant's invention to perform equally well with either the thickness and diameter taught by O'Halloran or the claimed 0.5 to 20 mm thickness and 2 to 7 mm diameter because the references teaching and the Applicant's teaching both allow for easier grip. Therefore, it would have been obvious to one of ordinary

Art Unit: 1744

skill in the art to modify Barman, Hegemann, and Northemann all in view of O'Halloran to obtain the invention as specified in claims 47 and 48.

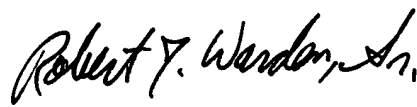
Conclusion

21 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shay L Balsis whose telephone number is 703-305-7275. The examiner can normally be reached on 7:30-5:00 M-Th, alternating F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden can be reached on 703-308-2920. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5665.

slb
February 27, 2003


ROBERT J. WARDEN, SR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700